

OFFICE MEMORANDUM



MICHIGAN
DEPARTMENT OF STATE HIGHWAYS

To: R. L. Greenman
Acting Testing and Research Engineer

From: L. T. Oehler

Subject: Fast Drying Traffic Paints. Research Report No. R-645.
Research Project 47 G-36 (20a).

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In accordance with J. P. Woodford's request to you, dated July 10, 1967 and in continuation of previous correspondence including H. J. Rathfoot's letters of July 18, 1966 and January 11, 1967, and the Office of Testing and Research replies of August 2, 1966 and January 18, 1967, respectively, we submit a current review of subject topic:

A. J. Permoda reports that the following actions have been taken or are scheduled:

1. The Department's initial evaluations of the fast-dry paints (Nite-Liner) were conducted in the Detroit area in 1964 and 1965, as presented in Research Laboratory Report No. R-556, dated October 18, 1965.
2. The Traffic Control Devices Committee, at a meeting on November 19, 1965, reviewed the above report. Because the evaluations favorably impressed the Metropolitan Maintenance Freeway Group and the Committee, with regards to decreasing the hazards attending the striping operation, the Committee moved and approved that the Office of Maintenance be authorized to use fast-drying paints in high traffic volume areas by the most economical method of application.
3. In 1966, Department representatives reviewed programs with other users of the fast-dry paints, including the Florida Highway Department and the cities of Atlanta, Baltimore, and Columbus.
4. In early 1967, the Office of Maintenance converted one striping machine by addition of heaters, recirculators and special bead gun, to the fast-dry operation based on information obtained in the above meetings.
5. Preparatory to issuance of specifications, the following steps were programmed:
 - A. In March 1967, the Office of Maintenance procured test amounts (60 gals) of white paint from 5 known producers, to determine field performance and applicability characteristics in the converted striping equipment. This cooperative phase has been completed with results presented later in this report.

B. On early results of above tests, the Office of Maintenance, in June 1967, procured 1000 gals of the most promising of the above paints (Baltimore) for larger scale field tests. The cost of the paint was about \$3.50 per gal as against \$5.50 in the 1965 tests. The test applications will begin on July 17th and be conducted in southern counties, including Westbound I 94 in Detroit.

C. Upon completion of phases A and B above, the Office of Maintenance will purchase a total of 5000 gals of white paint from one or more of the five producers for further 1967 field evaluation of paint and equipment.

6. After completion of the above testing, specifications will be prepared to cover purchases for 1968.

Durability, Drying Time and Applicability of tested paints:

The reported durability values were determined on transverse stripes on US 127, while the drying times and application characteristics were average values determined from those, and longitudinal striping on M 78, covering the following five tested products:

1. Harris - applied March 29 - Poor durability*, 12 min dry (unacceptable), good applicability.
2. Wm. Armstrong Smith - applied March 30 - Fair durability*, 2 min or less dry, fair applicability.
3. Glidden - applied April 5 - Good durability*, 4 min or less dry, excellent applicability.
4. Baltimore - applied April 19 - Very good durability*, 2 min or less dry, good applicability.
5. Jaegle - applied April 19 - Good durability*, 2 min or less dry, but develops instability during recirculation for an unacceptable applicability rating.

* NOTE: See attached photos for durability ratings.

Recommendations

On the basis of performance in field tests, and for purchase of 5000 gals of white paint, as outlined in 5 (C) above, we recommend: (a) that Requests for Bids, covering paints identical to those tested, be issued to Baltimore,

Glidden, and Wm. A. Smith; and (b) that because of its superior behavior, a Quality Preference Factor be applied to the Baltimore product in the issuance or pro-rating the amount of the contract or both.

OFFICE OF TESTING AND RESEARCH

L. T. Oehler

L. T. Oehler, Director
Research Laboratory Division

LTO/AJP:slt

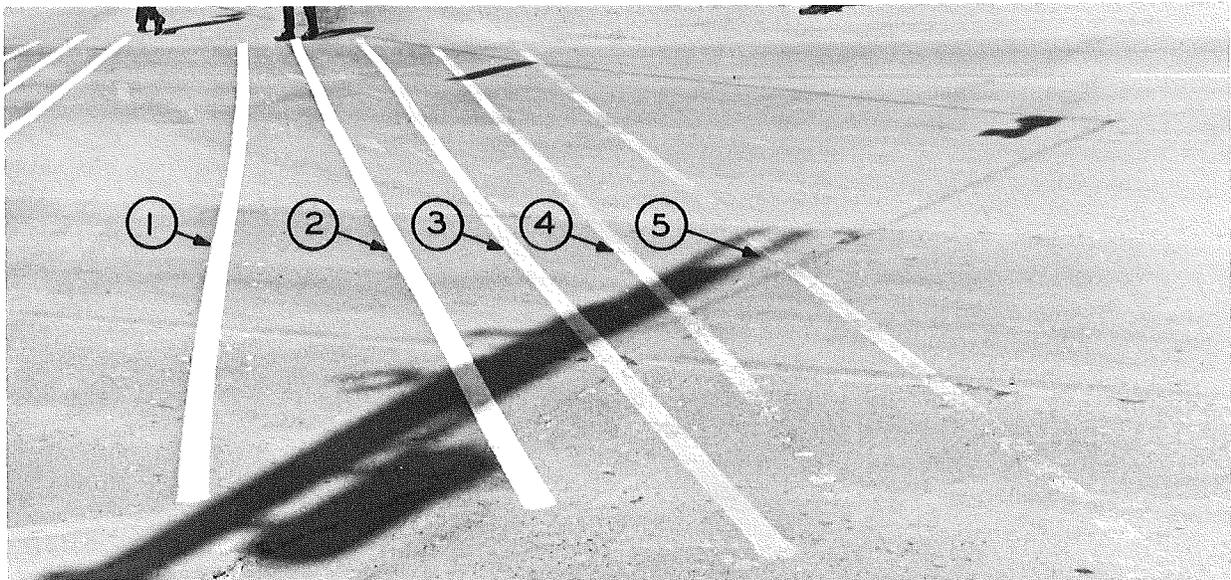


Figure 1. Appearance of test transverse stripes on US 127 - (April 19, 1967)

Stripe 1. (Jaegle) - just applied
 Stripe 2. (Baltimore) - just applied
 Stripe 3. (Glidden) - 2 weeks old

Stripe 4. (W. A. Smith) - 3 weeks old
 Stripe 5. (Harris) - 3 weeks old



Figure 2. Appearance of above stripes on July 12, 1967 ranging in age of service from 15 weeks for right stripe to 12 weeks for 2 left stripes. Second from left appears most durable.